Diagnostic development for NDCX-II*

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Transporting, manipulating, and delivering intense ion beams to produce WDM conditions in volumetric material samples requires precise control and diagnostic measurement. The NDCX-II facility will deliver ~55nC pulses of Li+ at 2-3 MeV in a sub-nanosecond duration within a 1 mm spot radius. We report on proposed methods to determine beam energy, charge and pulse duration, beam centroid offset, transverse distribution, and target plane fluence. We discuss recent work on calorimetric methods to determine peak beam intensity on the NDCX-I facility, and on beam position monitor development at the NDCX-II induction cell test stand.

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